

IN THE CLAIMS:

Amendments to the Claims

Please cancel claims 1-5 without prejudice or disclaimer of the subject matter thereof.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-5 (canceled)

6. (original) A plasma processing method using a spectroscopic processing unit, comprising the steps of:

separating spectrally plasma radiation emitted from a vacuum process chamber into component spectra;

converting said component spectra into a time series of analogue electric signals composed of different wavelength components at a predetermined period;

adding together analogue signals of the different wavelength components;

converting a plurality of added signals into digital quantities on a predetermined-period basis;

digitally adding together said plurality of added and converted signals a plural number of times on a plural-signal basis;

determining discriminatively an end point of a predetermined plasma process on the basis of a signal resulting from said digital addition step; and

terminating said predetermined plasma process.

7. (original) A plasma processing method using a spectroscopic processing unit, comprising the steps of:

separating spectrally plasma radiation emitted from a vacuum process chamber into component spectra;

converting said component spectra into a time series of analogue electric signals composed of different wavelength components at a predetermined period;

adding together analogue signals of the different wavelength components;

converting a plurality of plural added signals into digital quantities on a predetermined-period basis;

digitally adding said plurality of added and converted signals a plural number of times on a plural-signal basis;

adding said digitally added wavelength-based signals by referencing reference to wavelengths corresponding to a set of emission spectrum wavelengths intrinsic to materials as established previously;

determining discriminatively an end point of a predetermined plasma process on the basis of a signal resulting from said digital addition step; and

terminating said predetermined plasma process.

8. (original) A plasma processing method using a spectroscopic processing unit, comprising the steps of:

separating spectrally plasma radiation emitted from a vacuum process chamber into component spectra;

converting said component spectra into a time series of analogue electric signals composed of different wavelength components at a predetermined period;

adding together analogue signals of the different wavelength components;

converting a plurality of plural added signals into digital quantities on a predetermined-period basis;

digitally adding said plurality of added and converted signals a plural number of times on a plural-signal basis;

adding said digitally added wavelength-based signals by referencing to wavelengths corresponding to a set of emission spectrum wavelengths intrinsic to materials as established previously;

adding or alternatively subtracting or alternatively dividing said digitally added material-based signals correspondingly in dependence on said material;

determining discriminatively an end point of a predetermined plasma process on the basis of a signal resulting from said digital addition step; and

terminating said predetermined plasma process.